

## IMPLEMENTATION OF EVIDENCE-BASED PSYCHOTHERAPIES FOR CHRONIC PAIN: A SYSTEMATIC REVIEW

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Chronic pain conditions are common causes of disability in the United States and contribute to other serious problems such as opioid use disorder. Chronic pain is associated with high levels of psychological distress. Individuals with chronic pain have higher prevalence of mental health conditions, including PTSD, depression, and insomnia; they are also at greater risk for other chronic health conditions. Veterans have a higher prevalence of chronic pain conditions compared to civilians, resulting in significant healthcare costs for the Veterans Health Administration (VHA). Current guidelines for chronic pain recommend non-pharmacologic and non-invasive therapies with demonstrated benefits. First-line treatment options include evidence-based psychotherapies (EBPs), exercise and movement therapies, physical therapy, and non-opioid medications. EBPs with demonstrated efficacy for improving chronic pain outcomes include cognitive behavioral therapy (CBT), acceptance and commitment therapy (ACT), and mindfulness-based stress reduction (MBSR).

*No single therapy is effective for the majority of patients with chronic pain, and pain treatment responses are heterogeneous. Thus, experts recommend **personalized multimodal care**—using multiple treatment approaches in a stepped or integrated fashion.*

To help identify areas of research critical for improving the uptake of EBPs for chronic pain, VA HSR&D's Pain/Opioid COnsortia for REsearch (CORE) requested an evidence review on barriers, facilitators, and implementation strategies to improve uptake of EBPs. Key questions addressed 1) barriers and facilitators at the patient, provider, and system levels, and 2) results of implementation strategies aimed at promoting uptake of and engagement with EBPs. The review focused on CBT, ACT, and MBSR, because these have demonstrated efficacy for improving chronic pain outcomes; the review also addressed other EBPs commonly used to treat mental health conditions in VA (e.g., trauma-focused psychotherapies, depression). Investigators from VA's Evidence Synthesis Program (ESP) Center in Minneapolis, MN searched the literature, including MEDLINE, Embase, PsycINFO, and CINAHL, from inception through March 2021. From 7,295 unique citations, we identified 20 eligible articles that addressed barriers and facilitators for uptake of CBT (k=13), MBSR (k=5), and ACT (k=4); 2 studies addressed more than one therapy. Nineteen articles were rated moderate or high quality and one was rated low quality. The majority were conducted in the US (k=14, with 6 in VA settings), with the remaining conducted in the UK (k=4), Ireland (k=1), and Australia (k=1).

### Summary of Findings

- Shared facilitators of CBT, MBSR, and ACT for chronic pain included a good match between patient knowledge and beliefs about pain and EBP principles, as well as positive patient-therapist or patient-group dynamics. Other facilitators of CBT included patient readiness for change and telehealth availability.
- A common barrier to uptake of CBT, MBSR, and ACT for chronic pain was a mismatch between patients' pain-related beliefs and perceptions of core therapy concepts. Other barriers to CBT included cultural, communication, and logistical factors; barriers to MBSR and ACT included physical discomfort and logistical challenges.
- One article showed that CBT and MBSR for chronic pain were cost-effective for improving quality of life
- Most articles assessing CBT involved individual therapy (via telehealth and in person), while all articles assessing MBSR or ACT involved in-person groups.
- Patient demographics did not consistently predict pain psychotherapy attendance.

- Demographic variables including race, ethnicity, sex and gender were not clearly defined, and no studies assessed role of cultural and social factors in patients' views or experiences of EBPs.

### Research Gaps/Future Research

Studies of barriers and facilitators to EBPs for chronic pain focused largely on patient-level findings. Future work is needed to explore heterogeneity of treatment effects within EBPs for chronic pain, as well as provider- and system-level barriers and facilitators for EBPs for chronic pain. Specific recommendations for future research include the following:

- Examine provider- and system-level barriers and facilitators for CBT, MBSR, and ACT for chronic pain using comprehensive frameworks and in clinical practice settings.
- Identify patient-level factors contributing to heterogeneity of both treatment effects and treatment uptake for EBPs for chronic pain, to identify targets for future effectiveness and implementation work.
- Assess patient-level sociocultural and demographic factors, including sex, gender, race, and ethnicity, accurately and with clear analytic purpose.
- Use implementation frameworks to guide future evaluations of barriers and facilitators, processes of change, and key implementation outcomes.

## STUDIES ADDRESSING BARRIERS AND FACILITATORS TO EBPS FOR CHRONIC PAIN

### Cognitive Behavioral Therapy (CBT)

1. Bee P, McBeth J, MacFarlane GJ, Lovell K. Managing chronic widespread pain in primary care: a qualitative study of patient perspectives and implications for treatment delivery. *BMC Musculoskelet Disord.* 2016;17(1):354.
2. Fraser C, Beasley M, Macfarlane G, Lovell K. Telephone cognitive behavioural therapy to prevent the development of chronic widespread pain: a qualitative study of patient perspectives and treatment acceptability. *BMC Musculoskelet Disord.* 2019;20(1):198.
3. Heapy A, Otis J, Marcus KS, et al. Intersession coping skill practice mediates the relationship between readiness for self-management treatment and goal accomplishment. *Pain.* 2005;118(3):360-368.
4. Mun CJ, Otis JD, Concato J, et al. Further Examination of the Pain Stages of Change Questionnaires Among Chronic Low Back Pain Patients: Long-term Predictive Validity of Pretreatment and Posttreatment Change Scores and Stability of Posttreatment Scores. *Clin J Pain.* 2019;35(9):744-752.
5. Higgins DM, LaChappelle KM, Serowik KL, Driscoll MA, Lee A, Heapy AA. Predictors of Participation in a Nonpharmacological Intervention for Chronic Back Pain. *Pain Med.* 2018;19(suppl\_1):S76-S83.
6. Kerns RD, Rosenberg R. Predicting responses to self-management treatments for chronic pain: application of the pain stages of change model. *Pain.* 2000;84(1):49-55.
7. Koffel E, Vitiello MV, McCurry SM, Rybarczyk B, Von Korff M. Predictors of Adherence to Psychological Treatment for Insomnia and Pain: Analysis from a Randomized Trial. *Clin J Pain.* 2018;34(4):375-382.
8. Murphy JL, Cordova MJ, Dedert EA. Cognitive behavioral therapy for chronic pain in veterans: Evidence for clinical effectiveness in a model program. *Psychol Serv.* 2020;28:28.
9. Patel S, Peacock SM, McKinley RK, Clark-Carter D, Watson PJ. GPs' perceptions of the service needs of South Asian people with chronic pain: a qualitative enquiry. *J Health Psychol.* 2009;14(7):909-918.
10. Thorn BE, Day MA, Burns J, et al. Randomized trial of group cognitive behavioral therapy compared with a pain education control for low-literacy rural people with chronic pain. *Pain.* 2011;152(12):2710-2720.
11. Van Huet H, Innes E, Whiteford G. Living and doing with chronic pain: narratives of pain program participants. *Disabil Rehabil.* 2009;31(24):2031-2040.

### **CBT and Acceptance and Commitment Therapy (ACT)**

12. Wetherell JL, Petkus AJ, Alonso-Fernandez M, Bower ES, Steiner AR, Afari N. Age moderates response to acceptance and commitment therapy vs. cognitive behavioral therapy for chronic pain. *Int J Geriatr Psychiatry*. 2016;31(3):302-308.

### **CBT and Mindfulness-Based Stress Reduction (MBSR)**

13. Herman PM, Anderson ML, Sherman KJ, Balderson BH, Turner JA, Cherkin DC. Cost-effectiveness of Mindfulness-based Stress Reduction Versus Cognitive Behavioral Therapy or Usual Care Among Adults With Chronic Low Back Pain. *Spine (Phila Pa 1976)*. 2017;42(20):1511-1520.

### **ACT**

14. Casey M-B, Murphy D, Neary R, Wade C, Hearty C, Doody C. Individuals perspectives related to acceptance, values and mindfulness following participation in an acceptance-based pain management programme. *J Contextual Behav Sci*. 2020;16:96-102.
15. Clarke SP, Poulis N, Moreton BJ, Walsh DA, Lincoln NB. Evaluation of a group acceptance commitment therapy intervention for people with knee or hip osteoarthritis: a pilot randomized controlled trial. *Disabil Rehabil*. 2017;39(7):663-670.
16. McCracken LM, Sato A, Wainwright D, House W, Taylor GJ. A feasibility study of brief group-based acceptance and commitment therapy for chronic pain in general practice: recruitment, attendance, and patient views. *Prim Health Care Res Dev*. 2014;15(3):312-323.

### **MBSR**

17. Brintz CE, Roth I, Faurot K, Rao S, Gaylord SA. Feasibility and Acceptability of an Abbreviated, Four-Week Mindfulness Program for Chronic Pain Management. *Pain Med*. 2020;21(11):2799-2810.
18. Crisp CD, Hastings-Tolsma M, Jonscher KR. Mindfulness-Based Stress Reduction for Military Women With Chronic Pelvic Pain: A Feasibility Study. *Mil Med*. 2016;181(9):982-989.
19. George MC, Wongmek A, Kaku M, Nmashie A, Robinson-Papp J. A Mixed-Methods Pilot Study of Mindfulness-Based Stress Reduction for HIV-Associated Chronic Pain. *Behav Med*. 2017;43(2):108-119.
20. Martinez ME, Kearney DJ, Simpson T, Felleman BI, Bernardi N, Sayre G. Challenges to Enrollment and Participation in Mindfulness-Based Stress Reduction Among Veterans: A Qualitative Study. *J Altern Complement Med*. 2015;21(7):409-421.

### **VA EVIDENCE SYNTHESIS PROGRAM (ESP) REPORT:**

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Goldsmith ES, Koffel E, Ackland P, Hill J, Landsteiner A, Miller W, Stroebel B, Ullman K, Wilt T, and Duan-Porter W. **Implementation of Psychotherapies and Mindfulness-based Stress Reduction for Chronic Pain and Chronic Mental Health Conditions**. Washington, DC: Evidence Synthesis Program, Health Services Research and Development Service, Office of Research and Development, Department of Veterans Affairs. VA ESP Project #09-009; 2021.

<https://www.hsrd.research.va.gov/publications/esp/Psychotherapies-Pain.cfm>

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